***War, Technology, and Experience Aboard the USS* Monitor.** David A. Mindell. Baltimore: Johns Hopkins University Press, 2000, 224 pp., bibliographical essay, index. $14.95, paper.

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Growing up in Brockton, Massachusetts, I remember being fascinated by a painting in city hall that memorialized the duel between the USS *Monitor* and CSS *Virginia*. Since Brockton's main contribution to the war effort was to shoe the feet of Union soldiers, it was unclear to me why the city fathers chose to memorialize the *Monitor*.

Plumbing the depths of the *Monitor's* meaning and influence is precisely the goal of David A. Mindell's fascinating study, *War, Technology, and Experience Aboard the USS* Monitor. The *Monitor's* meaning, Mindell shows, was not defined primarily by its performance in battle, which was ambiguous; rather, it was negotiated within a complex milieu of interested parties that included naval officers, engineers, entrepreneurs, journalists, various publics, and government leaders.

Mindell recounts the experiences of people who came in contact with the *Monitor*, and how they and other commentators symbolically represented the ironclad. His account includes a close reading of William F. Keeler's letters (Keeler served as assistant paymaster aboard the *Monitor*). In these letters, the *Monitor* emerges as a capricious and dangerous vessel. Except for its turret and pilothouse, the *Monitor* was often completely submerged. Totality of enclosure, in an environment hostile to man, was new to sailors. Poor ventilation meant that temperatures reached 156° F below deck. Fumes from the coal-fired engine made breathing difficult. During combat, the crew faced more danger from their ship than from enemy fire (the *Monitor* proved virtually invulnerable to cannons firing shot). As the crew toiled in their "sweltering prison" (Keeler's description), inglorious death by suffocation was the greatest danger they faced. Crew endurance—rather than steadiness under fire—became the new measure of bravery. Yet old measures endured. In well-selected photographs, Mindell shows that crewmembers posed next to dents in the *Monitor's* armor, thereby asserting they had indeed braved enemy fire.

Like the *Mercury* astronauts depicted in *The Right Stuff*, crewmembers' morale and manly self-image suffered the more they perceived themselves as "Spam in a can." For Keeler, reassurance came with rustling petticoats. Female visitors entranced by the *Monitor* restored his sense

of self. Even after their desultory and ultimately inconclusive campaign on the James River in 1862, crewmembers discovered they had retained their luster in the eyes of dignitaries and their ladies. Indeed, in clambering up and down ship's ladders, ladies revealed (inadvertently?) more than a glimpse of petticoats, to the delight of Keeler and crew.

Maintaining public support, Mindell notes, was as important to the Union as the *Monitor's* combat effectiveness. At Lincoln's urging, the navy pursued a "low-risk" strategy for the *Monitor* as Union forces struggled in the field. Union difficulties encouraged sponsors to tout the *Monitor's* putative victory over the *Virginia* to persuade the navy to fund more monitor-class ironclads. Meanwhile, naval officers extolled its technical virtuosity both to intimidate the Confederacy and to impress foreign observers. An issue left unexplored by Mindell is whether the North exploited images of the *Monitor* to persuade the British that intervention in the war would incur undue risk to the Royal Navy.

Representations of the *Monitor*, Mindell concludes, demonstrated dissonance. Often referred to as a coffin by its beleaguered crew, who knew all-too-well its technical flaws and limitations, the *Monitor* was nonetheless portrayed in public as a miracle weapon. Its iconic status was in part carefully constructed and then safeguarded by its inventor, the naval architect John Ericsson, who attributed technical flaws to crew inexperience.

Ericsson had dissenters. Mindell revises conventional narratives that depict naval officers as purblind or hidebound Horatio Nelsons fighting a futile rearguard action against visionary inventors. In fact the "steam generation" of U.S. naval officers supported ironclads and other innovations. Yet it was not obvious which of several technical innovations would prove effective in combat. New machinery, moreover, undermined traditional naval practices while introducing disturbingly new forms of expertise.

Ericsson, Mindell shows, promoted a vision of naval warfare in which machines would supplant sailors, and engineering skill would obviate seamanship and warriors' gallantry. Visionary Ericsson was, but he was also strong-willed, close-minded, and arrogant. By insisting that engineering calculations outweighed first-hand experience at sea, he alienated even those naval officers who sympathized with mechanical expertise and technical knowledge. Small wonder he failed to create an infrastructure within the navy that would sustain the ironclad experiment.

Foreshadowing the postbellum navy's conservatism were ruminations

penned by Nathaniel Hawthorne and Herman Melville. With the *Monitor*, Hawthorne wrote, "All the pomp and splendor of naval warfare are gone by." Melville agreed, writing that sailors were becoming operatives of machines, and sea warfare a passionless struggle between engineers and their creations. Some naval officers doubtless agreed with Hawthorne's description of the *Monitor* as ugly, suspicious, and devilish. Officers with aristocratic pretensions could only see their self-image sinking as they became increasingly beholden to bookish engineers.

Towards the end of his stimulating book, Mindell makes suggestive use of Paul Fussell's concept of irony from *The Great War and Modern Memory* (curiously, Fussell's name is misspelled as Fussel or Fusell). The *Monitor* was in fact a harbinger of mass killing with machines that eroded notions of progress and bravery in Western industrialized society. Mindell's analysis here would have profited from John Ellis's *The Social History of the Machine Gun*. Robert O'Connell's *Of Arms and Men* is also missing from an otherwise useful bibliographic essay that concludes the book, as is a discussion of the *Monitor's* impact on naval doctrine along the lines of I.B. Holley's classic *Ideas and Weapons*. But errors and omissions are minor and do not detract from an original and stimulating study that raises serious questions about relations between warriors and their death-dealing machinery.